DOCUMENT RESUME

ED 340 389 CS 215 440

AUTHOR Phillips, Sylvia G.
TITLE Sentence Combining: A Literature Review.
PUB DATE [90]
NOTE 65p.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Higher Education; Kernel Sentences; *Language Research; Learning Strategies; Secondary Education; *Sentence Combining; Sentence Structure; Syntax; Teaching Methods; *Writing (Composition); Writing Improvement; *Writing Instruction; Writing Processes; Writing Strategies
IDENTIFIERS Historical Background

ABSTRACT

Sentence combining--a technique of putting strings of sentence kernels together in a variety of ways so that completed sentences possess greater syntactic maturity--is a method offering much promise in the teaching of writing and composition. The purpose of this document is to provide a literature review of this procedure. After defining the term "sentence combining," the review then covers the following topics: historical information, key strategies for teaching sentence combining, a few experimental studies, and an analysis of the benefits and potential pitfalls of this practice. While interest in sentence combining can be traced to ancient times, Noam Chomsky's experiments in transformational grammar served as the impetus for research in contemporary times. The literature also indicates that some scholars prefer cumulative sentence exercises based on the principles devised by Francis Christensen. A few researchers question the use of the T-unit and forced-choice ratings in various sentence-combining studies, but most researchers praise sentence combining as an effective means of improving written compositions. (Contains 55 references.) (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 308 589

Sentence Combining: A Literature Review

by Sylvia E. Phillips, Ph.D.

Abstract

Sentence combining--a technique of putting strings of sentence kernels together in a variety of ways so that completed sentences possess greater syntactic maturity--is a method offering much promise in the teaching of writing and composition. The purpose of this document is to provide a literature review of this procedure. After defining the term "sentence combining," the review then covers the following topics: historical information, key strategies for teaching sentence combining, a few experimental studies, and an analysis of the benefits and potential pitfalls of this practice. While interest in sentence combining can be traced to ancient times, Noam Chomsky's experiments in transformational grammar served as the impetus for research in contemporary times. The literature also indicates that some scholars prefer cumulative sentence exercises based on the principles devised by Francis Christensen. A few researchers question the use of the T-unit and forced-choice ratings in various sentence-combining studies, but most researchers praise sentence combining as an effective means of improving written compositions.

CS215440

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

Sentence Combining: A Literature Review

by Sylvia E. Phillips, Ph.D.

Introduction

What is the best way of teaching writing? This question continues to puzzle English teachers and scholars. Arthur Palacas argues that the red comments in the margins of student compositions fail to teach writing because teacher observations do not provide "explicit linguistic descriptions which can help students improve their writing" (192). In working with the learning disabled, Norma Nutter and Joan Safran say that we have "more specific structured methods for teaching and for assessing reading" than for writing (669). Kellogg Hunt says that "[i]n the large universities almost no one spends his life teaching writing unless he can't hack it as a literary scholar" (150).

The statements of Palacas, Nutter, Safran, and Hunt convey an attitude of pessimism about teaching writing. Fortunately, Frank O'Hare counters these opinions with a more positive observation: "Despite Marshall McLuhan's timely warning that the electronic 'nonwriting' age is upon us, educators remain convinced . . . [that] writing is a human, perhaps the most humane, skill developed by man" (1). It is with this conviction that teachers and scholars continue their pursuit of better methods of teaching writing. During the 1960's, many of these professionals hailed sentence combining as a viable alternative teaching method. Stephen Koziol describe it as "one of the most exciting instructional strategies . . . [of] the past

decade" (96). William Smith says it "can be exciting and rewarding for the teacher and for the participating student" (81). Similarly, Sherwin calls it "a promising way to help students toward greater skill in writing" (qtd. in Marek 142).

The purpose of this essay is to provide a brief literature review on sentence combining. This review concentrates on the use of sentence combining for native speakers of English and excludes studies on English as a second language. A review of the literature reveals that the articles on sentence combining discuss the following aspects: definition and historical background, exercise strategies, alternative methods, experiments, benefits, and potential pitfalls.

Definition and Historical Background

In his work Sentence Combining: Improving Student Writing Without Formal Grammar Instruction, Frank O'Hare defines "sentence combining" as "a type of pedagogy involving extensive, sequence practice of specially formulated print-based exercises through which a student is said to acquire dexterity in writing complex sentence structure" (v). John Savage, in his article "Sentence Combining: A Promising Practice," describes it as a technique of "putting together strings of basic kernel sentences into more complex, syntactically mature, and fluent sentences" (1). O'Hare says that sentence combining is based on three major premises: 1) written English differs from spoken English and needs teaching methods based on language acquisition processes; 2) the process of sentence development is dynamic

and not static; and 3) activities are easier to complete when divided into smaller components (v).

One way of understanding sentence combining is to trace its origins from antiquity to the present. In his article "Sentence Combining in a Comprehensive Language Framework," James Kinneavy says that before the Middle Ages, historians and philosophers became interested in prose style because they felt that poetry failed to communicate events and concepts accurately. Sophists, or stylistic rhetoricians, engaged in legal, political, and other persuasive activities which did not require historic, philosophic, or scientific prose. For these reasons, the sophists developed "rhetorical prose, a more emotional and subjective and ornamental kind of writing" (61). During the Middle Ages, scholars of the day consulted Cicero's De Inventione, an issue rhetoric, and the Rhetorica ad Herrenium, "a figurist rhetoric . . . emphasizing stylistic tropes, sentence, structures, and sound structures" (62). During the Renaissance, rhetoricians tended to respond to the rising disciplines of science and journalism by repudiating the "elaborated sentence structures, sound structures, and figurist ornamentation" of Ciceroan rhetoric and favoring a simpler style of prose prescribed by the Royal Academy (62).

From about the third century B.C. to the first century A.D., many ancient rhetoricians emphasized the importance of sound and figures of speech in sentential structures. At the same time, rhetoricians such as Isocrates, Aristotle, Cicero, and Quintilian valued the "periodic sentence, a long, sustained,

and syntactically complex structure" (61). In many ways, the periodic sentence resembles sentence combining, a technique based on the premise that a sentence with syntactic embeddings and 24 words has a more mature prose style than a sentence lacking these characteristics (61).

In more recent times, sentence combining researchers such as John Mellon, Norma Hutter, Joan Safran, and William Strong attribute sentence-combining research to the work of Noam Chomsky. Mellon credits the year 1957 with the beginning of sentence combining. "Transformational grammar," says Mellon, "still in its infancy, was known only to Noam Chomsky and a few dozen other linguists, and no English teachers whatever" (1). Hutter and Safran also acknowledge Chomsky's contribution:

> [sentence combining] derive[s] from Noam Chomsky's (1965) theory that the basis of grammar is the irreducible sentence (the "kernel") and that the structure of grammar is the syntactic operations (the "transformations") we perform on kernels to generate new sentences" (450).

William Strong, in his article "An I-Search Perspective on Language/Composition Research," mentions Noam Chomsky in his recollections about composition research in the early 1960's: " . . . I attended NDEA Institutes, where I made tree diagrams and pretended to have read Chomsky's Syntactic Structures" (27). Undoubtedly, Chomsky's work on transformational grammar paved the way for the use of sentence combining and other innovative approaches in the teaching of written composition.

Exercise Strategies

Signaled Combining

Several researchers identify various exercise strategies for teaching sentence combining. Two of the most common include signaled combining and open combining. William Strong defines "signaled combining" as "a fully formed statement whose structure is predetermined and characteristic of mature expression" (61). This technique allows teachers to acquaint students with structures ranging from noun clauses to participial phrases to appositives. Signaled exercises tend to have a limited number of correct answers because the instructions for sentence construction are very specific (Daiker 160). A sample signaled exercise would be to use the word "who" in combining the following kernels:

I love calling my friend. (who)

My friend lives in Buffalo.

The result would be

I love calling my friend who lives in Buffalo.

Researchers like Daiker say that signaled combining helps students learn specific constructions like infinitive phrases but "seem[s] too mechanical and too restrictive ever to become the center of a composition course" (160). According to Nutter and Safran, signaled combining is a "[p]lainless grammar lesson" which teaches students how to identify and use the different parts of speech. Savage also defends signaled combining, saying that these exercises may be predetermined but are designed "to

give students practice in mastering the wide range of language constructions available to them in writing well-formed sentences" (2).

Open Combining

The process of open combining, like signaled combining, requires students to combine kernels to produce a logical sentence. But in open combining, the students receive no specific instructions for creating sentences. The kernels

A woman presents herself.

The presentation is determined.

The determination is by culture.

could be combined as

Culture determines how a woman presents herself.

or

How a woman presents herself is determined by culture.

Open combining has its critics. Mellon, for example, warns that with multiple kernels, younger students run the risk of serially compounding one kernel after another unless the teacher includes the directive "write one simple sentence" (2). There is also the risk that the students will make grammatical errors. But Savage assures us that open combining incorporates quality control by allowing students to learn a variety of ways "to transform sentences, make linguistic choices . . . experiment with structure . . . [and] discern which sentences produce the most effective results in written language" (2).

Whole-Discourse Problems

To improve results with sentence combining exercises, several researchers advocate the use of whole-discourse problems. Through this method "kernels are sequenced so that the result is a narrative/descriptive paragraph rather than a series of sentences on different topics" (Strong 62). Crowhurst's "Sentence Combining: Maintaining Realistic Expectations" notes that sentence-combining experiments based on whole-discourse problems tend to be more effective than those based on sentence-level problems (6). Mellon says that whole-discourse exercises have two benefits. The first is that by freeing students from concern with content, whole-discourse exercises help students improve their syntactic manipulations. The second is that whole-discourse exercises help students improve writing both within and between sentences (7).

Charting

It is not unusual for teachers and researchers to encourage students to expand sentences through signaled and open sentence combining. When teaching these skills, teachers and researchers may employ a variety of techniques to enhance student mastery. Jeannette Harris, Lil Brannon, and Arthur Palacas recommend the technique of charting to help students analyze the amount of variety in their sentences. The chart described in Harris' and Brannon's "Sentence Analysis and Combining As a Means of Improving the Expository Style of Advanced College Students" is designed to help students analyze the variety of sentence patterns in their essays as compared with the patterns found

in essays by professional writers. "Typically," say Harris and Brannon, "the student found his own sentences repetitious in their beginnings [and] in their use of certain verbs" (172).

Palacas' "Towards Teaching the Logic of Sentence Connection" explains the concept of sentence chaining, "the semantic means of logically connecting sentences to produce coherent discourse" (192). To improve this process, Palacas recommends the use of a sentence-connectives chart which "shows a wide range of connective types, most of which are likely to be familiar, but all of which can be understood quite easily from the actual connective expressions listed under each category" (194). After introducing the students to the sentence-connectives chart, Palacas has them manipulate kernels into longer sentences to "alert . . . student[s] to the existence of sentence connection . . . (197). He feels that sentence-combining exercises, in addition to clarifying the concept of chaining, also makes "the problem of vague reference to propositions . . . one of chaining. If the student cannot pull out some portion of the preceding discourse with which to replace his demonstrative pronoun, he has vague reference" (198).

Imitation

Harris, Brannon, and Palacas discuss the usefulness of charting for improving sentence variety. Another useful method is imitation, a process of having students observe how professionals write and then of making them copy model sentences and paragraphs in one's own handwriting, "carefully and thoughtfully," to expedite "an understanding of what is happening

in the words" (Gorrell 313). Corbett notes that imitation, common in ancient Roman classrooms, was regarded as an effective way of improving style (496-97). Researchers like Mellon do not favor imitation, saying

> . . . [T]he crucial difference between the old slate board copying exercise and sentence combining is that the latter requires repetitive and intensive processing of the sentence as it is built up one part at a time, such that one "hears" its formation in one's mind as each addition occurs; whereas copying a sentence need be no different from copying a list of random words, or random phrases. (33)

Strong, on the other hand, credits Francis Christensen with providing "a heuristic for future researchers and almost single-handedly [making] the classical method of <u>imitation</u> respectable again" (28)(Strong's italics).

Three other researchers using imitation include Donna Gorrell, Rosemary Make, and Joseph Williams. In "Controlled Composition for Basic Writers," Gorrell describes how she instructs students to copy models exactly, "with every comma, dash, and period" (314) before assigning imitation exercises. Gorrell feels that imitation exercises provide students "with a structure for arranging their own ideas" (314).

Rosemary Make and Joseph Williams, in "Sentence Expanding: Not Can, Or How, But When," discuss an experiment to determine if sentence combining or imitation was more effective in helping students expand sentences. Using two experimental groups

applying imitation and two applying sentence combining, Make asked students to take pre- and posttests in which they wrote "for 50 minutes on one of the following questions":

> Should [name of school] have a student smoking lounge?
>
> Should the legal drinking age in Illinois be raised to 21?
>
> Should study halls be dropped from a student's program?
>
> Should students be compelled to wear ID cards?

Essays were rated for quality by determining the number of flaws in the following areas: organization; meaning and logic; style; and mechanics, punctuation, and usage. Results showed that the "imitation and combining groups differed significantly on the dimensions of logic and style. In these dimensions, the imitation students significantly decreased their flaw count" (143) (Make's and Williams' italics). Their study suggests that imitation exercises can be more effective for expository discourse than sentence combining exercises:

> Discourses that depend on proposition/support, cause/effect, or problem/solution must be developed not only by illustration but by explanations that impose logical, not descriptive relationships on the "kernels." When details are added, they may change the focus of a sentence through subordination and logical relationships, and thereby change the meaning of the set of kernel sentences in ways far more profound than the meaning of a set of descriptive or narrative kernel sentences. (141)

Cumulative Sentence Exercises

An alternative method of sentence expansion is the use of cumulative sentence exercises. O'Hare defines a "cumulative sentence" as a sentence with "a high proportion of final free modifiers" (71). Cumulative sentence and sentence combining exercises encourage students to lengthen sentences. A key difference, however, is that the content of sentence combining exercises tends to be predetermined, while that of cumulative sentence exercises tends to be created by the student (Faigley 1978, 95).

Francis Christensen, the developer of the cumulative sentence, provides an in-depth explanation of his technique in "A Generative Rhetoric of the Sentence." The concept of the cumulative sentence evolved from Christensen's belief that written composition is an additive process in which a writer begins with a major idea and then adds to it so that the reader can grasp the meaning. Christensen says that a writer can add modifiers either before or after the main clause. "[A] modern form of the loose sentence that characterized the anti-Ciceronian movement in the seventeenth century" (35), "the cumulative sentence," says Christensen, "is the opposite of the periodic sentence. . . . It is dynamic rather than static, representing the mind thinking. The main clause exhausts the mere fact of the idea. . . . The additions stay with the main idea" (29). A cumulative sentence contains a main clause and several modifying clauses. To demonstrate the concept, Christensen

includes sentences composed by several noted authors. A sentence by William Faulkner contains the following kernels:

1. She came among them.
2. She came from behind the man.
3. She was gaunt.
4. She was in the garment.
5. The garment was gray.
6. The garment was shapeless.
7. She was in the sunbonnet.
8. She was wearing shoes.
9. The shoes were stained.
10. The shoes were of canvas.
11. The shoes were for the gymnasium.

Based on the Christensen model, these kernels could be written as

> She came among them from behind the man (Main Clause), gaunt in the gray shapeless garment and the sunbonnet (Adjective Clause), wearing stained canvas gymnasium shoes (Verb Clause). (32)

Five proponents of the cumulative sentence are Robert Marzano, Joseph Lawlor, Terry Phelps, Nancy Swanson, and Dennis Packard. Marzano's article "The Sentence Combining Myth" argues that Francis Christensen's cumulative sentence technique, which is based on the concept of modification, is more effective at improving the quality of student writing than signaled and open sentence combining (59). Joseph Lawlor also favors cumulative

sentence exercises. His article "Sentence Combining: A Sequence of Instruction" describes how he uses cumulative sentences as part of his overall program to improve sentence combining. In his composition unit, he teaches the use of coordinates, adverbials, restrictive noun modifiers, noun substitutes, and free modifiers. Lawlor suggests that writing teachers introduce the concept of the free modifier near the end of a composition unit because the average student cannot understand this structure:

> [Free modifiers] are associated with mature prose, particularly when they are used in sentence-final position in cumulative sentences. . . . [F]ree modifiers (and cumulative sentences) are more frequent in written language than in oral language. Unless students have had considerable experience reading modern prose, they are likely to have difficulty with these structures. (59-60)

Like Marzano and Lawlor, Terry Phelps also praises the cumulative sentence. In the article "A Life Sentence for Student Writing: The Cumulative Sentence," Phelps explain how he introduced the concept of the cumulative sentence, not by defining the concept but by conducting a dialogue with his classes. Typically, the students notice that in a cumulative sentence, nouns sometimes appear in adjectival clauses, verbs sometimes appear in participial phrases, and phrases and clauses appear at the end of a sentence. Phelps says that teacher questions should focus on observation and reasoning instead

of guesswork so that students develop the essential writing skills of applying, analyzing, synthesizing, and evaluating (321). Cumulative sentences exercises encourage students to vary their sentences, add metaphoric descriptions to their sentences, rephrase confusing periodic sentences into more lucid sentences, and eliminate needless repetition. Phelps finds that students can use cumulative sentences in their papers to make them sound more detailed and professional.

Another advocate of the cumulative sentence is Nancy Swanson of South Carolina. In "Teaching Sentence Variety," Swanson encourages her students to develop a more mature writing style by having them analyze the sentence constructions of local writers Pat Conroy and Lee Smith to demonstrate that professional writers tend to use long, cumulative sentences with adverb clauses, appositives, participles, and nominative absolutes (76). Swanson asks her students to complete an exercise in which they write a sentence of one hundred words. This exercise is sometimes one of the most descriptive and intensive writing assignments which the students have ever completed.

Like Marzano, Lavlor, Phelps, and Swanson, Dennis Packard discusses the use of the cumulative sentence in classroom instruction. But unlike the other researchers, Packard addresses the concept at a more theoretical level. In his article "A Generative Rhetoric," Packard melds the theories of Francis Christensen and Willis Pitkin, a student of Christensen's, to devise a method for analyzing the texture of a sentence. Packard says that Christensen, in addition to

describing the concept of texture, also emphasizes its relationship with effective writing style:

> The foundation . . . for a generative or productive rhetoric of the sentence [and paragraph] is that composition is essentially a process of addition. . . . If a writer adds to few of his nouns or verbs or main clauses and adds little, the texture may be said to be thin. . . . But if he adds frequently or much or both, then the texture may be said to be dense or rich. One of the marks of an effective style . . . is variety in the texture, the texture varying with the change in pace, the variation in texture producing the change in pace. (qtd. in Packard 59)

Pitkin disagrees with Christensen, saying that writers may add not to single words, phrases, and sentences but "to words and phrases and sentences already added to" (Packard 59). Pitkin uses phrase structure grammars to expand upon Christensen's framework.

The purpose of Packard's study was to represent Pitkin's concept of additions more like Christensen's. Defining texture as a "movement of additions" (a quote from Christensen), Packard hypothesizes that a sentence with more additions and greater movement will have greater density than one with fewer. He defines density not in terms of the frequency of new words but in terms of the frequency of additional grammatical constructions such as clauses and phrases "that preserve the grammatical type of what is being added to . . ." (59). Packard says that the

only exceptions occur when a noun phrase is joined to a verb phrase because the addition results in a clause instead of a noun phrase or verb phrase (60). He then goes on to say that additions "move in two directions: in depth and in breadth" (60). Depth pertains to the vertical movement of a sentence, or number of additions, while breadth pertains to the horizontal movement of a sentence, or number of grammatical constructions which receive additions. Packard determines the depth of a passage by finding its ratio of additions per number of words and determines the breadth by finding its ratio of "horizontally moved additions per words" (61).

Packard applies the concept of breadth and depth to several sentences, including

John,
an unemployed brick-layer,
and Martha,
his pregnant wife,
..entered the bank at 5 p.m.
and left two hours later with the payroll.

The noun phrase "an unemployed brick-layer" adds to the noun "John" and is therefore aligned with it. "The words 'and Martha' add to the noun phrase above it and is placed at the bottom of this list. The second and third lines add depth" (60), augmenting the information which appears before them. But the phrase "his pregnant wife," referring only to "Martha," is subordinated under "Martha" and not coordinated with the other lines. In addition to adding depth, the fourth line adds

breadth, or horizontal movement. When "combined with the whole noun phrase above it," the verb phrase "entered the bank at 5 p.m." results in a clause (61). The last words--"and left two hours later with the payroll"--add not to the whole clause but to the verb phrase. Packard represents this process by using two dots as a place holder before the verb phrase so that "the addition is aligned with the verb phrase and not the clause" (61).

After discussing the vertical and horizontal additions of the sentence, Packard then applies a mathematical formula to determine the depth and breadth of a sentence. In the sentence about John and Martha, the depth, or ratio of vertical additions per number of words, is 4/23 = .17, where "4" represents the number of lines which serve as additions (all but the first and fifth) and "23" represents the number of words in the sentence. Packard calculates sentence breadth by determining the ratio of lines which are unaligned with previous lines (the fourth and sixth lines) for a result of 2/23 = .09.

Packard concludes his article by identifying the strengths and weaknesses of Christensen's and Pitkin's theories. In Packard's opinion, Christensen failed to see "the full range of additions and additions to additions" (64). Pitkin identified the possibilities of embeddings within embeddings but presented tree diagrams which sometimes seem "too complicated for the composition classroom" (65). Packard urges composition researchers to continue their search for useful theories in

the fields of linguistic and logic relevant to composition research.

Other Exercise Strategies

Some of the major exercises for sentence combining include signaled combining, open combining, whole-discourse units, charting, imitation, and cumulative sentence exercises. There are other exercises and techniques which are useful. Mey suggests that oral drills with sentence combining help students improve their writing (171). O'Hare had his students maintain a weekly journal of two to four pages per week. Journal writing, in addition to getting students to write anything at all, provides them with the practice needed for competent writing (41). Nutter and Safran recommend two techniques: decombining and index cards. Teachers can break down sentences in student textbooks into simpler kernels. To help young pupils avoid the fatigue which can result from handwriting, Nutter and Safran also asked them to write each word of an exercise onto index cards and then, either individually or in small groups, to move the cards to make new sentence combinations" (451). Mey finds it helpful for students to play a language game which he describes as follows:

> Two sentences with a shared noun phrase were written on the blackboard with the subjects and predicates separated. Each subject or predicate was then numbered. . . . Students were then designated by number to represent each section of the sentence(s). A fifth

> student was then invited to sign in and represent any connecting word that he/she wished to be. (174)

Experiments

Many studies on the effectiveness of sentence combining assess the level of syntactic maturity achieved in passages of prose writing. Syntactic maturity is based on the principle that mature writers tend to use more transformations in their writing and therefore write with more syntactic complexity. William Strong says "that syntactic growth (in terms of increased sentence length, depth of modification, and subordination) is a natural and inexorable feature of normal language development . . ." (56). Strong's "An I-Search Perspective on Language/Composition Research" identifies three indices of syntactic growth:

> (1) increased noun modification by means of adjectives, relative clauses, and phrases; (2) increased nominalization in clausal, infinitive, and gerund constructions; and (3) increased depth of modification through embedding. (28)

To determine syntactic maturity, researchers measure the number and length of T-units and clauses in student sentences. Kellogg Hunt defines a "T-unit" as "a minimal terminal unit, or one main clause plus any subordinate clause or non-clausal structure that is attached to or embedded in it" (257). Morenberg, Daiker, and Kerek quote Roy O'Donnell as concluding "that T-unit length may be the most useful and usable index of syntactic development over a wide age-range . . . [and that]

clause length is the best single measure of syntactic complexity at the high school level and beyond" (248). Crowhurst says that practice in sentence combining can help students "write longer sentences, longer T-units, longer clauses, more subordinate clauses of various kind, and more multi-clause T-units" (63).

Children and Adolescence

Many experiments on sentence combining attempt to relate age level with syntactic maturity. Lester Faigley says that Kellogg Hunt's Grammatical Structures Written at Three Grade Levels can be regarded as a breakthrough study in the field of sentence combining. It was in this study that Hunt defined the concept of the T-unit, or minimal terminal unit, and noticed that syntactic development occurred at each grade level (96). Robert de Beaugrande also describes Kellogg Hunt's work in "Sentence Combining and Discourse Processing: In Search of a General Theory." Hunt's Differences in Grammatical Structures Written at Three Grade Levels, the Structures to be Analyzed by Transformational Methods describes an experiment which analyzed the transformational methods and grammatical structures of students in the fourth, eighth, and twelfth grades. Hunt found that "older students increase the length of their T-units by using more subordinate clauses as well as non-clauses" (de Beaugrande 61-62).

Frank O'Hare describes his eight-month experiment with seventh graders to determine if they could learn sentence combining without a formal knowledge of transformational grammar

and to determine if compositions written by students practicing sentence combining would be judged "as significantly superior in overall quality to the compositions written by the control group" (62). To examine the relationship between sentence combining and composition quality, O'Hare asked eight experienced English teachers to judge the quality of narrative and descriptive compositions from an experimental and a control group. Teachers scored control and experimental groups on six factors of syntactic maturity: words per T-unit, clauses per T-unit, words per clause, noun clauses per 100 T-units, adverb clauses per 100 T-units, and adjective clauses per 100 T-units (37). "[T]he narrative experimental compositions," says O'Hare, "were significantly better than the narrative control compositions, and, similarly, the descriptive experimental compositions were significantly better than the descriptive control compositions" (65). O'Hare concludes that sentence combining exercises can improve the writing behavior of seventh graders.

Like O'Hare, Witte, Daly, and Cherry search for a relationship between syntactic maturity and writing quality for adolescents in "Syntactic Complexity and Writing Quality." These researchers take this issue a bit further by testing if the relationship is linear. They "examine[d] quality ratings for texts that differ in syntactic complexity and assess whether there is a significant linear relationship between perceived writing quality and syntactic complexity" (153). These researchers conducted two investigations. The first was designed

to see how high school teachers rated a series of texts which varied widely in syntactic complexity, while the second was designed to see how these teachers rated the quality of a single text.

For the first investigation, teachers read a text about aluminum and a text about marijuana. Results indicate that in both texts, the passage with the lowest syntactic complexity received quality ratings which were significantly lower than other sentences. In the "aluminum" text, "the fourth most complex passage . . . was evaluated significantly higher than all others. . . . [There were] no significant differences in quality . . . among the passages that were next to the lowest . . . third highest . . . and highest . . . in syntactic complexity" (157). In the "alcohol and marijuana" text, "the passage highest in syntactic complexity . . . was rated as better than the two passages lowest in syntactic complexity . . . but not better than the third most . . . or the fourth most . . . syntactically complex passages. . ." (158).

For the second investigation, which was conducted simultaneously, researchers asked the high school teachers to rate the quality of the aluminum texts. As in the first investigation, the passage with the lowest syntactic complexity received quality ratings which were significantly lower than other sentences:

> . . .the least syntactically complex passage . . . was evaluated as significantly lower in quality than either the most complex passage . . . or the next-

> to-the-most complex passage . . . but not significantly lower in quality than . . . the two passages closes to [the one with the lowest] syntactic complexity" (160).

Results of both investigations indicate that unless the passages are extremely simple, there is no systematic relationship between writing quality and syntactic complexity. The researchers conclude that

> syntactic complexity may . . . be an important phenomenon to investigate . . . But [the results] also suggest . . that unless there is a wide range of levels of complexity in the writing samples examined, researchers are likely to be disappointed in their attempts to show a relationship between syntactic complexity and writing quality. (163)

Maureen A. Sullivan discusses her study of ninth and eleventh graders in "Parallel Sentence-Combining Studies in Grades Nine and Eleven." Sullivan asked nine teachers of New York to participate in the Grade Nine Study and seven to participate in the one for Grade Eleven. Students were assigned pretest and posttest narratives on the following topics:

> [Pretest]
>
> You have been in many classes during your school career. Occasionally something different or memorable happened. Select a particular day and describe what happened. Fill in the details and tell the full story

so that a friend of yours who was not there will have a clear idea of what happened.

[Posttest]

We have all had embarrassing things happen to us. Describe one embarrassing incident that occurred in your life. Give all the details and discuss the effect it had on you. (83)

Sullivan analyzed the essays and isolated those of students who gained at least two words per T-unit on the posttest. These students completed a delayed posttest on the following narrative-descriptive topic:

[Delayed Posttest]

All of us have memories of a special place where we have had a great time! Describe the place to a friend who has never been there and tell him about an experience that you had there. Give your friend details that will help paint a mental picture: sounds, colors, smells, shapes, and your feelings about the place. In addition to the description, give a detailed account of the experience that you had there. (84)

Sullivan's goal was to test for mean T-unit length, noun substitutions per 100 T-units, and final free modifiers per 100 T-units. "[R]esults of the one-way manova [for Grade Nine] . . . indicated that the growth in the two syntactic factors, mean T-unit length and frequency of the use of final free modifiers, were significant at the .01 level and the .001 level

. . ." (85). Sullivan goes on to say that "[t]wo of the Grade Nine treatment groups . . . made gains which are more than two times the gains of the Grade Eleven treatment groups" (86). It is difficult to account for the relatively modest gains of the Grade Eleven students. Perhaps the Grade Nine students "were in a period of greater acceleration in language development than were the students in grade Eleven" (88). Teachers of the Grade Eleven Students were under pressure to prepare the Grade Eleven Students for the Regents Exam, perhaps causing teachers to have a less favorable attitude toward sentence combining exercises. Despite these problems, the studies on the Grade Nine and Grade Eleven students show that sentence combining has a positive impact on syntactic maturity at the high school level.

Most of the experiments on sentence combining relate sentence combining and cumulative sentence exercises to gains in syntactic maturity. Some researchers, however, have been concerned with the relationship between sentence combining and various discourse modes. Marion Crowhurst's "Syntactic Complexity and Teachers' Quality Ratings of Narrations and Arguments," for example, compares syntactic complexity in narrative and argumentative writing for students in the sixth, tenth, and twelfth grades. Students in the narrative and argumentative groups saw several 35 mm. color slides of pictures. Students in the narrative group were asked to write an exciting one-page story about a picture, while those in the argumentative group were asked to write a one-page persuasive essay about

the same picture. At all three grade levels, students had higher W/TU ratios in the persuasive essays than in the narratives. In assessments of quality, teachers tended to give tenth and twelfth graders whose essays demonstrated a high degree of syntactic maturity higher quality ratings than those with essays demonstrating a lower degree of syntactic maturity. There was no significant difference between quality ratings for sixth graders with high and low degrees of syntactic maturity. Crowhurst attributes this result to the fact that several sixth grade teachers said that they rarely assign argumentative essays. Furthermore, he found that "sixth graders have not developed facility in this mode of writing" (230). Another finding was that at the twelfth grade level, narrations of higher syntactic complexity were not judged to be as superior in quality as those of lower syntactic complexity. Crowhurst concludes that "effective narrative style is not greatly dependent on complexity of syntax" (230).

College Students

The studies of Hunt, O'Hare, Witte, Daly, Cherry, Sullivan, and Crowhurst assess the usefulness of sentence combining for childhood and adolescent populations. Several researchers have also conducted experiments on college students. In "Measuring Syntactic Growth: Errors and Expectations in Sentence-Combining Practice with College Freshmen," Elaine Maimon and Barbara Nodine applied Kellogg Hunt's measures of words per T-unit (W/TU) to the testing of syntactic complexity in the writing of college freshmen, "a group that Hunt did not test" (234). These measures

were used "to test freshman composition students, who, during their regular composition course, have practiced . . . sentence-combining" (234). This study was also designed to determine "the patterns of syntactic errors that develop when students are given practice in sentence-combining" (234).

At the beginning of fall semester, Maimon and Nodine asked 14 students of Beaver College to complete two pretest assignments. In the first, the students were to rewrite the kernels of O'Hare's "aluminum" text into longer sentences while in the second, the students were to examine a list of distinguished people and write an essay about a hypothetical lunch with one of these individuals. During the semester, the researchers had the students study Hamlet and learn sentence combining. After six or seven months, the students received two posttest assignments. The first posttest was a repetition of the aluminum exercise, and the second posttest was similar to the first, except that the students had to write about a different distinguished person. Additionally, students were asked to write an in-class essay in which they answered one of a list of questions about Hamlet.

Results showed that on the aluminum exercise, students wrote an average of 4.23 more words per T-unit on the posttest than on the pretest. The words per T-unit also increased on the lunch essay, but "[t]he students wrote longer T-units--about 40% longer--on the lunch essay than they did on the controlled-context aluminum exercise" (238). It is possible that the results were so much greater because students wrote their lunch

BEST COPY AVAILABLE

essay on a topic which was familiar to them, making students feel freer "to add modifiers to the sentence elements, an opportunity not available when manipulating the sentences about processing aluminum" (238). On the Hamlet essay, the average W/TU was 20.01, compared to 22.98 for the lunch essay.

To test for embedding errors in sentence-combining exercises, the researchers calculated "the mean number of embedding errors per essay length" (240). The mean number of errors decreased significantly in the lunch essay posttest but increased in the aluminum exercise. There were 1.02 embedding errors as opposed to .42 for the lunch essay. "[T]he greater difficulty of the assignments," say the researchers, "was not reflected in longer T-units" (242). Having conducted the study, Maimon and Nodine conclude that sentence-combining practice is a useful tool for teachers but caution that there may be initial increases in embedding errors until students master the technique.

In "The Effects of Intensive Sentence Combining on the Writing Ability of College Freshmen," Andrew Kerek, Donald Daiker, and Max Morenberg tested the effectiveness of students engaged in classes where teachers taught sentence combining one-hundred percent of the time and not as a supplementary exercise. Students completed pre- and post-tests on two topics, "with one-half of each group writing on one topic on the pretest and the reverse topic on the post test" (145) so that each subject wrote an essay on both topics. There was no significant difference between W/TU in the experimental and control groups.

"But in mean clause length," say the researchers, "the experimental group gained nearly one whole word . . . whereas the control group dropped .13" (146). In terms of quality of writing, the experimental group scores on a six-point scale increased from a mean of 3.20 to 3.73, while those of the control group only increased from 3.16 to 3.37. Researchers say these results are "comparable to a veteran baseball player boosting his batting average 53 percentage points in half a season" (147). Results of this study demonstrate that sentence combining stimulates and accelerates syntactic growth.

Max Morenberg, Donald Daiker, and Andrew Kerek also relate sentence combining to syntactic maturity and overall writing quality in their study "Sentence Combining at the College Level: An Experimental Study." The researchers gave experimental and control groups a pretest and posttest on two topics. "Topic A was given to half the students in each group and Topic B to the other half. The topics were reversed on the posttest so that each student produced a paper on each topic" (246). The control group learned composition through "the reading and analysis of essays written by professional writers" (247), while the experimental group used William Strong's Sentence Combining: A Composing Book as their text.

To rate the compositions, the researchers asked 28 teachers to apply holistic, analytic, and forced-choice rating methods. In holistic rating, raters assign a score on a scale of 1 to 6 based on the following six criteria: ideas, supporting details, organization and coherence, voice, sentence structure,

and diction and usage. The analytic rating is similar to the holistic rating but measures student ratings on each of the six criteria of the holistic rating. In forced-choice rating, a teacher received matched pairs of papers and decided which paper of the pair was better based on the holistic rating scale.

Results show that "[c]ollege freshmen trained in sentence combining scored significantly higher than control students on factors of syntactic maturity and wrote compositions judged superior in quality" (250). On the holistic rating, the control group received a mean score of 3.16 on the pretest while the experimental group scored a 3.20. On the posttest, the mean score for the control group was 3.37 and 3.73 for the experimental group, a result regarded as significant by the researchers. The forced-choice rating, also based on holistic criteria, showed that posttests papers of sentence combining students were rated as better 79 times to 42 times. An analytic rating reveals that sentence combining students earned higher scores in all categories except organization and coherence. The researchers conclude that "[b]oth in standard factors of syntactic maturity and in measures of overall writing quality, first-year college students trained in sentence combining achieved significantly higher scores than students following a conventional curriculum" (253).

Beverly Swan also examines the effectiveness of sentence combining among college students in "Sentence Combining in College Composition." The major purpose of her study was to determine if sentence combining exercises help student W/TU

(words per T-unit) and W/Clause (words per clause) increase after a 15-week period. Swan selected three teachers and 32 students at the University of Rhode Island to complete three writing tasks at three different intervals during a 15-week instructional period: the first day of the class, eight weeks into the term, and the class period immediately following the one eight weeks into the term. For the first assignment, students rewrote a passage of kernel sentences similar to Hunt's Aluminum passage. Swan refers to this passage as a Controlled Stimulus Passage (CSP). For the second task, students completed a free-writing passage in the argumentative mode within an hour. For the third task, students edited their free writing on the next day without receiving guidance from the instructors. Between the first and second intervals, students spent 30 minutes each week learning sentence combining by using William Strong's Sentence Combining: A Composing Book. Additionally, students completed one of the exercises during the class period. Each instructor collected these assignments for distribution during the next class. Students kept other sentence-combining exercises in a journal "checked regularly by the instructors" (219) to insure that students were incorporating variety in their sentence patterns.

Swan checked the words per T-unit and words per clause for each writing task. Words per T-unit decreased slightly after eight weeks on the CSP and increased slightly from the pretest level during the final interval. Similar results occurred with the timed and edited writing assignments, even

though the mean scores increased with the edited writing. Words per clause, on the other hand, increased on all three exercises. Swan says that "[t]he mid-point measure used in this research allowed [her] to see where and when the specific gains or losses occurred and allowed for inferences from those data" (222). Swan concludes that it may take more than a semester for students to show greater syntactic gains.

Another researcher observing sentence combining among college students is Richard Maxwell, author of "Within-Group Distribution of Syntactic Gain Through Practice in Sentence-Combining." Having two experimental and one control group, Maxwell asked 99 students to complete two sentence-combining exercises to determine if sentence combining is most beneficial for the average college freshman or for the one performing at a below-average level. He says that

> The first step entailed rewriting a professional paragraph that had been reduced to elemental one-clause sentences . . . The second step, begun only when the first step had been completed, required the student to write the same paragraph exactly as it had been written by its author, following S-C procedures with full but non-technical cues. (88)

For the pre-test, students wrote a 50-minute, in-class essay on a p[illegible]-assigned topic. The post-test also consisted of a 50-minute, in-class essay, but students could choose one of three pre-assigned topics. In terms of words per clause, words per T-unit, and clauses per T-unit, there were "no significant

differences between control and experimental groups in any of the three factors" (90). But on the post-test, there were significant differences between the control and experimental groups on mean T-unit and clause length but not on mean clauses per T-unit. Based on these results, Maxwell says that students with below-average writing skills stand the most to gain from sentence combining exercises. The mean results suggest that "below-mean experimental students, who began writing on the average clauses shorter than the typical 8th grader's and T-units about equal to an 11th grader's . . . had effectively caught up with their peers in T-unit and clause length" (94). Maxwell also says that "it [is] harder to maintain students at above-mean levels than to bring below-mean students up toward class norms" (95).

The studies discussed thus far assess the effectiveness of sentence combining during the academic semester or year in which students learned this skill. In their study "Words Enough and Time: Syntax and Error One Year After," Maimon and Nodine take their investigation of sentence combining a step further by asking if the students of their original composition study would "be able to write T-units which are as long as those written at the end of their freshman year" (104). The researchers had eight sophomores of Beaver College complete two essays during final examination week in May 1978. For the first essay, students paraphrased an 80-word passage from H. C. Levinson's "Science and Superstition." For the second essay, students were asked to respond to the following scenario:

> During World War II a group of Jews in Eastern Europe, doomed to a Nazi concentration camp and probable death, attempts to escape to a neutral country. In the group is a mother with a small baby. At a dangerous border crossing the group crouches in the darkness, waiting for a patrol to pass. Hungry and tired, the baby begins to cry. Someone in the group hisses, "Smother that baby or we're all dead!"
>
> What should the mother do? Explain <u>your reasoning</u>. (105) (italics Maimon's and Nodine's)

Adjusting for variable word length in essays, Maimon and Nodine found that students averaged 24.91 W/TU on the paraphrase and 20.06 W/TU on the moral dilemma. Testing for syntactic or embedding errors, Maimon and Nodine found that "[a]lthough there were twice as many errors in the moral-dilemma assignment as there were in the paraphrase, the error rates on both parts of the follow-up study were at a moderate level, compared to the rates from the previous year" (106). Since Beaver College emphasizes "a college-wide commitment to good writing" (107), Maimon and Nodine state that college-wide writing may have contributed more to "syntactic adeptness" than sentence combining exercises (107). But the researchers conclude that their "sophomore subjects outran 'time's winged chariot' and maintained the ability to combine a sufficiency of words without error" (107).

The research studies discussed to this point relate to open, signaled, and whole-discourse sentence combining for

college students. The studies by Murray Stewart and Lester Faigley address the technique of cumulative sentence exercises on college student writing. The purpose of Stewart's "Freshman Sentence Combining: A Canadian Project" was to determine if the use of William Strong's Sentence Combining: A Composing Book, supplemented by Francis Christensen's A New Rhetoric, "would increase the normal syntactic development and influence the writing quality of first-year university Education students over the six-week period allowed in a 'Communications' module" (258). For the pre- and post-tests, experimental and control group students were asked to choose one of a list of "lead" topics and compose a 300-word essay. Between the pre- and post-tests, students performed sentence combining and cumulative sentence exercises. Stewart himself rated 60 essays according to the holistic rating guidelines of C. R. Cooper's and L. Odell's Evaluating Writing. At the end of the six-week period, the students went from 13.07 to 16.13 words per T-unit and from 8.51 to 11.01 words per clause. In terms of writing quality, scores increased from 4.23 to 4.70 for the control group and from 4.66 to 5.50 for the experimental group. Stewart concludes that freshmen who spend six weeks studying sentence-combining based on the Strong-Christensen model can expect positive gains in syntactic maturity and "a good likelihood of some improvement in writing quality as well" (266).

Faigley's "Problems in Analyzing Maturity in College and Adult Writing" reports on an experiment "to test the effectiveness of generative rhetoric [cumulative sentences]

as a means of teaching college writing . . ." (95). Students received a pre-test on one of "two matched inpromptu topics. At the end of the semester the topics were switched and administered under the same conditions as a posttest" (95). The mean of the experimental group rose over .6 on a six-point scale, a result deemed as significant by the researcher. Faigley's next goal was to determine if the experimental group's gain in syntactic maturity affected overall writing quality. To accomplish this goal, Faigley collected data from pretest and posttest essays and used a multivariate analysis to determine which element of syntactic maturity affected writing quality. Results showed that essays with a high percentage of T-units with final free modifiers tended to be perceived as having a higher quality than essays with a high number of words per T-unit, words per clause, and clauses per T-unit. Faigley encourages teachers to expose students to sentence variety through sentence combining and cumulative sentence exercises but also warns that students must also match sentence complexity with the aim of the discourse (97).

Children, Adolescents, and College Students

Many studies on sentence combining target children, adolescents, or college students in an effort to relate sentence combining and cumulative sentence exercises with syntactic growth. Janice Neuleib's and Ron Fortune's study "The Use of Sentence Combining in an Articulated Writing Curriculum: A Report on Illinois State University's NEH Project in Progress" is different because it examines syntactic change among

adolescents and college students. The primary objective of this study was to determine how sentence combining could "best be handled at different grade levels" (128). Neuleib's and Fortune's study analyzed the writing of high-school sophomores, high-school juniors and seniors, and college freshmen. The researchers chose these three subdivisions because "students in each group exhibit common cognitive patterns, and as a result, can benefit from sentence-combining practice in basically the same ways" (129). Neuleib and Fortune identify writing characteristics of the three groups of students before assigning sentence combining exercises which help them improve writing skills. High-school sophomores tend to have an adequate command of vocabulary, grammar, and syntax but lack "a good sense of what the other person [knows]" (129). Furthermore, they have trouble dealing with "abstract concepts such as the sentence" 9129). High-school juniors and seniors have a better ability to think about an audience when writing but make erroneous choices when selecting sentences. "[Students] . . . settle too quickly and too adamantly on a particular choice without experimenting with other possibilities" (130). College freshmen tend to have the most developed skills. Neuleib and Fortune say that exercises for this group should emphasize the relationship of the sentence to the whole composition.

At the end of the chapter, Neuleib and Fortune identify three useful sentence combining exercises. In the first exercise, students examine their own papers and determine whether the sentences are too short and simple for the intended purpose

of the composition. For the second exercise, students were asked to break sentences into kernels before recombining them. For the third exercise, students checked for the cohesiveness of paragraphs by linking sentences through sentence combining. If sentences did not make sense when combined, the writer needed to include additional information for greater clarity.

Neuleib and Fortune conclude that "[s]tudents at all these levels [high school sophomores, high school juniors and seniors, and college freshmen] . . . can be encouraged to make developmental progress through the use of the three different means of sentence combining" (137).

Benefits

Experiments suggest that students who complete sentence combining and cumulative sentence exercises write with a higher degree of syntactic maturity than those who do not. Furthermore, raters tend to perceive writing with a higher degree of syntactic maturity as higher in quality than writing which has less syntactic complexity. There have been studies on sentence combining, however, which identify additional benefits, such as the ability to incorporate old and new information, vary sentence patterns, and to apply sentence combining to literary analysis and technical writing.

Old/New Information

In his article "The Role of Old and New Information in Sentence Combining," Harold Nugent explores the question "Why do we select one kernel sentence as matrix and one as insert?" Nugent says that five factors influence our placement of old

and new information: "1) sharing experience with the audience, 2) creating a certain consciousness in the audience, 3) revealing the empathy of the writer, 4) establishing a distance between author audience, and 5) placing complex material at the end of the sentence" (202).

Various linguists have noticed that English speakers tend to place old and shared information at the beginning of a sentence and new or unshared information at the end. Nugent says that the placement of new and old information is a more complex process than we realize. "[E]ffective authors, debaters, politicians or scholars" (203) vary their placement of old and new information to achieve the best communicative effect. An advertiser, for example, may use the kernels

My opponent did not appear for the debate.

My opponent is a leftist.

to make the assertion

My leftist opponent did not appear for the debate.

Here, the author assumes "joint knowledge which may in fact not be present" (203), as the opponent may have been absent due to illness, car trouble, or a death in the family. Students should understand the effect of old and new information in various statements.

Writers shift old and new information to influence "the consciousness of [and] audience at [a] particular point of time" (203). The kernels

We broke your window.

We were playing with our football.

could be written as

1. We broke your window with our football.
2. Our football broke your window.
3. Your window was broken by our football.
4. Your window got broken.
5. The window broke. (204)

Linguist Frederick Bowers says that the process of shifting the focus of the sentence from "we" to "football" to "window" can be called the "paradigm of increasing responsibility" (qtd. in Bower 204), a common strategy in situations entailing blame. Statements like "The toast burned." and "The Royal Crown Derby china slipped from my hand." adhere to Bowers' theory.

In addition to sharing experience with and creating consciousness in an audience, the placement of old and new information can reveal the empathy of a writer. The sentence "Delta is ready when you are." shows the advertisers empathy for the airline passenger, while the sentence "You are ready when Delta is ready" shows empathy for the airline.

The blending of old and new information can establish a distance between author and audience, particularly when the writer includes too much information which the reader does not share or comprehend. If the kernels

Empiricism is replacing introspection.
Empiricism exists in their history of thought.
Introspection exists in the history of thought.
SOMETHING is the concern of his lecture.

become the sentence

> The replacement of empiricism for introspection in the history of thought is the main concern of his lecture.

the audience might feel as if the writer is "putting it down" (206). Nugent says that

> [p]lacking too much information in the subject, or old-information, component of the sentence can have the effect of establishing a superior or presumptuous attitude. On the other hand, placing too much new information in the predicate component of the sentence can have the opposite effect. (206)

A final factor affecting a writer's placement of old and new information is the complexity of the material. The kernels

> Kinesiology has a useful purpose.
>
> We learn how to analyze the movements of the human body.
>
> We study the human body.

can be expanded into

> In order to learn how to analyze the movements of the human body, we study kinesiology.
>
> We study kinesiology in order to learn how to analyze the movements of the human body.

"Generally speaking," says Nugent, "pronouns and other elements that have antecedents make for weak endings of sentences. . . . [S]uch . . . element[s rarely] . . . represent new information, and thus will usually not occur at the end of a sentence" (207).

Nugent concludes that the five factors for including old and new information depend on the writer's awareness of audience. "The effective sentence-combiner can have as one of his or her goals the striving for a balance of old and new information in keeping with the desired communicative effect on the reader" (208).

Sentence Variety

Nugent's "The Role of Old and New Information in Sentence Combining" demonstrates that sentence combining allows a writer to adjust the placement of old and new information in a sentence according to the audience being addressed. Another benefit of sentence combining is that it encourages writers to alter the sentence patterns appearing in paragraphs and compositions. Charles Cooper, in his article "An Outline for Writing Sentence-Combining Problems" says that "[e]very teacher would welcome a systematic classroom activity that would enable his students to write sentences of greater structural variety and complexity" (96). Sentence combining seems to accomplish this very objective.

Richard B. Larsen's "Sentence Patterning" argues that students need a bridge between imitation exercises and independent composing. After four weeks of composition instruction, Larsen distributes a mimeographed sheet with a listing of the following sentence patterns:

SV - subject-verb core

sc - subordinating conjunction

cc - coordinating conjunction

cs - conjunctive adverb

phr - opening participial or prepositional phrase

1. single sentence--SV.

   example: The student walked to campus.

2. complex sentence--SV sc SV. or sc SV, SV.

   examples: The student walked to campus while her roommate rode the bus. Although the student walked to campus, her roommate rode the bus.

3. compound sentence--SV, cc SV.

   example: The student walked to campus, but her roommate rode the bus.

4. semicolon sentence--SV; cs, SV.

   example: The student walked to campus; however, her roommate rode the bus.

5. phrase-start sentence--phr, SV. or phr, (any of above SV combinations).

   example: Walking to campus in the cold, the student wished that she had taken the bus. (103) (italics Larsen's)

Larsen also gives students a copy of a table containing subordinators, coordinators, and conjunctive adverbs. Students then write sentences employing varied sentence patterns as well as subordinators, coordinators, and conjunctive adverbs.

Glenn Broadhead and James Berlin also encourage students to vary sentence patterns in their article "Twelve Steps to Using Generative Sentences and Sentence Combining in the

Composition Classroom." These researchers ask students to apply the following basic sentence patterns (BSP's) when writing sentences:

BSP--1 (noun plus verb)

BSP--2 (noun plus verb plus noun)

BSP--3 (noun plus linking verb plus noun)

BSP--4 (noun plus linking verb plus adjective)

Students who master these BSP's can then insert bound and free modifiers. Broadhead and Berlin define "bound modifiers" as adjectives, adverbs, and prepositional phrases and "free modifiers" as "structures which may be 'freely' placed fore, after, or in the middle of the base clause that they modify" (299). The purpose of teaching BSP's is "to show how . . . students may be led to generate clearer, more efficient, and more imaginative sentences, using sentence-combining exercises to complement the instruction in generating sentences" (295).

Larsen, Broadhead, and Berlin identify sentence patterns which can help students improve writing skills. Marylyn Calabrese, Stephanie Yearwood, Douglas Butturff, and Adrian Sanford identify other methods for promoting sentence variety. In "Teaching Sentence Variety," Calabrese says that she asks students to revise their essays by varying "the openings of their sentences" (75). "Because inexperienced student writers begin too many sentences with the subject and depend too often on 'and' to connect their thoughts," says Calabrese, "their writing is marked by . . . a choppy style. . . . [S]entence

combining . . . helps students produce more interesting and varied writing" (74).

Sentence combining has also helped Stephanie Yearwood in her composition classes at St. Lawrence University. In "Sentence Combining and Composing in the Classroom," Yearwood says that she asks her students to study paragraphs and determine if sentences can be written in alternative ways. As the term progresses, Yearwood asks students to incorporate appositives, absolutes, participial phrases, and other constructions into their sentences. "The main concern in assignments," says Yearwood, "is to exert continual pressure for the students to use the new constructions in their writing and to use them with full concern for appropriateness" (158).

In his article "Sentence Combining, Style, and the Psychology of Composition," Douglas Butturff recalls how writer James Joyce would walk the streets and mentally arrange and rearrange the words of a single sentence until he was satisfied with the result (39). Similarly, students should realize that sentence combining requires the arrangement and rearrangement of words to create the most suitable sentence. Butturff argues that sentence combining forces students to make judgments about their message and their audience. The sentences

> Those students, who practiced sentence combining, improved as writers.
>
> Those students who practiced sentence combining improved as writers.

make different assumptions about the audience. In the first sentence, the nonrestrictive relative clause "implies that the author believes . . . his audience knows who 'those students' are" (41). In the second sentence, the relative clause identifies the students who practiced sentence combining.

Butturff says that sentence combining exercises have three major benefits. First, students must make judgments when examining their syntactic choices. Second, varying sentence combinations can help students "convey different ideas" (41). Third, sentence combining increases an awareness of writer motivations and reader responses.

Fearing the "doom" (68) of the English sentence, Adrian Sanford identifies four ways of varying sentences: addition, subtraction, substitution, and transposition. The purpose of addition is to enrich the description of an event, person or object. The process of addition can be applied to the sentence

> As they walked out, they continued talking.

in the following manner:

> As they slowly walked out the huge, dark-leather paneled door, they continued talking animatedly. (69) (italics Sanford's)

Subtraction enables a writer to describe an event "without connotation" (69). Subtracting seven words from the sentence

> He looked about carefully and thoughtfully, left the grey-walled room through the same exit, and quietly but firmly closed the heavy door behind him.

leaves

He looked about, left the room, and closed the door.

In Sanford's opinion, substitution "provides nearly limitless opportunities for elaboration" (69). The sentence

He looked about, left the room, and closed the door.

can be enhanced as

After looking about carefully, he left the room through the same exit, quietly closing the door behind him. (69)

Students can redirect meaning or change the emphasis of a sentence through transposition, as in the sentence

Carefully he looked about, left the room through the same exit, and behind him quietly closed the door.

Sanford ends his article "Four Basic Ways of Working with Sentences" by saying that students need new ways of manipulating, expanding, and tightening the sentence (70).

Literary Analysis

Henry Robert Meinold describes his experience of applying sentence combining to literary study in "Sentences: The Focal Points of English Teaching." A common problem in teaching poetry, for example, is getting students to avoid pausing at the end of each line when reading a poem. To teach students that writers can select sentences from a wide range of options, Meinold asks his students to move phrases in poems without changing the intended meaning. This exercise heightens the students' appreciation of poetry and helps them "grapple with reading comprehension" (179). Meinold wants his students to

understand "that sentences can be changed and that language can be discussed, explored, or even debated" (182).

Technical Writing

While Heinold's chapter relates sentence combining to literary analysis, M. Rosner, T. Paul, and Paul Anderson relate sentence combining to technical writing. Rosner's and Paul's "Using Sentence Combining in Technical Writing Classes" say that sentence combining exercises can improve the teaching of technical writing. Sentence combining has several benefits: "it gives students regular writing practice; it can teach the logic of sentence structure, sentence editing, and punctuation; paragraph development and organization; and rhetorical stance" (35). Throughout this article, Rosner and Paul provide sample sentence combining exercises useful for technical writing classes.

In "Out of the Schoolroom: Sentence Combining in Training Programs for Business, Industry, And Government," Anderson notes that employers, who are reluctant to apply recently developed methods for teaching writing, prefer writing courses which are "pedagogically conservative" (184). Wanting employees to write shorter sentences, employers are not always enthused with the concept of syntactic maturity, which encourages writers to add more words per sentence.

Traditionally, employers apply readability formulas like the one by Rudolf Flesch to predict the ease of reading a particular passage. Anderson feels that readability formulas are useful but "can lead to a simplistic approach to writing

that ignores such important qualities as comprehensibility and usability" (185). In Anderson's opinion, employers should teach sentence combining for two reasons:

> First, it attempts to teach authors about writing by having them study grammar and grammatical errors. Second, in the writing practice it requires, sentence combining asks writers to explore alternative ways of expressing a set of ideas and then to select the one alternative that will work most effectively in a given situation. (186)

Anderson emphasizes that through sentence combining, a writer can select the best possible sentence from several alternatives and thereby increase the effectiveness of his or her communication.

Paul Anderson offers suggestions for teaching sentence combining in the workplace. Employers can alter the material to suit the educational levels of particular employees. Some employees, for example, may have high school diplomas while others may have graduate degrees. Employers should also assure that syntactic structures suit the desired form of communication. Absolute constructions are not always suitable for scientific and technical communication:

> The chamber will be fully chilled, <u>its temperature--230</u>. (189) (italics Anderson's)

A noun substitute, on the other hand, could be very effective:

> <u>Turning off the switch</u> can ruin the experiment. (189) (italics Anderson's)

Another of Anderson's suggestions is for employers to construct sentence combining exercises on job-related subjects, such as central processing units, metallic coatings, and chemical compounds. Furthermore, the exercises should "have the same kinds of purposes as the documents prepared . . . on the job" (190), such as proposing a solution, reporting a problem, or placating an angry customer.

Other Benefits

The articles and chapters discussed thus far deal with specific benefits of sentence combining. Other researchers write about the merits of sentence combining in general. In "Prospects for Sentence Combining," for example, Elray Pedersen says sentence combining "stimulate[s] long-lasting growth in syntactic fluency, improvement in overall quality of writing, and development of perceived attributes of student writing" (56). We live a time when writing is regarded as a process and not a product, a function of creativity and not of correctness, a process of literacy and not literature, a process of using language and not of talking about it. Pedersen ends his article by saying that "current sentence-combining research shows . . . that the cognitive performance of students is improved through practice in sentence-combining" (59).

"Building Writing Competence With Sentence Combining" and "Teaching the Writing Process" say that sentence combining prepares students to write original compositions. Daiker, Kerek, and Morenberg say that sentence combining exercises prepare students to write original compositions because students receive

"disciplined writing practice . . . without the sometimes paralyzing pressure to be 'creative'" (401). Richard Gebhardt says that sentence combining "can give composition teachers a way to address the overload that many students face when [writing]" (210). With sentence combining exercises, students can work on a writing task which is easier to manage than a five hundred-word composition. Gebhardt identifies several other advantages of sentence combining:

> Sentence combining gives structure to what a student must do. By being definite . . . a sentence-combining assignment can protect inexperienced students from the stress they may feel at an open-ended paper assignment. . . . Sentence combining also lets teachers structure exercises--moving from the brief and simple, to longer and more complex--so that we can help students build up their capacities to handle the simultaneous demands of producing, reading, judging, and modifying words. . . . (211)

Potential Pitfalls

With all of its advantages, sentence combining has its critics. In his article "Scientism and Sentence Combining," Michael Holzman says that sentence combining studies sometimes suffer from "scientism," "the practice of the forms of science for their own sake" (74). Much of Holzman's article attacks Kellogg Hunt's Grammatical Structures Written at Three Grade Levels for two major reasons. First, Holzman disagrees with the concept of the T-unit, saying that it cannot be strictly

defined. "[R]esearch using it [the T-unit], says Holzman, cannot be independently duplicated and verified" (76). Second, Holzman does not agree with some of the conclusions of Hunt's study. Specifically, Hunt called "the writing of authors in Harper's and The Atlantic Monthly that of 'skilled adults'" (75) because of the high numb[illegible] of T-units. The study found that there was a mean difference of 2.9 words per T-unit between eighth- and twelfth-grade writing and a mean difference of 5.9 words per T-unit between twelfth-grade writing and that of "'skilled adults,' which is more than the entire growth in 'syntactic maturity' between fourth and twelfth grade" (75). Holzman argues that T-unit length varies according to the purpose of the discourse. Citing a study by Kucera and Francis, Holzman says that sentence length varies from 12.8 words for mystery and detective novels and 25.5 words for government documents (75). "When Hunt assumed that good writing meant long clauses and confirmed this judgment only by reference to Harper's and The Atlantic Monthly," says Holzman, "he prejudiced his experimental results, and those of many subsequent researchers" (76).

While Holzman attacks the Hunt study, Robert Marzano criticizes O'Hare's Sentence Combining: Improving Student Writing Without Formal Grammar Instruction. Marzano's "The Sentence Combining Myth" says that a goal of O'Hare's study was to see if sentence combining exercises improved overall writing quality. O'Hare compared the compositions of the control and experimental groups and concluded that the sentence combining group wrote compositions of higher quality. Marzano disagrees

with O'Hare's method of "forcing his raters to make a decision between pairs of compositions" because Marzano feels this method could lead to highly misleading results:

> In short, O'Hare's forced choice method inappropriately measures a trait that exists on a continuum (poor overall quality-good overall quality) in a yes-no fashion. He should have rated the compositions using some type of ordinal scale (1-9, high-medium-low, etc.) and then run a t-test on the means for the two groups. Such a procedure would have been a powerful test of the hypothesis that sentence combining improves overall composition quality. (58)

To prove his point, Marzano describes the procedures and results from his 1974 study A Factor Analysis Study to Determine the Relationship Between Transformational Theory and Language Performance. Marzano found that there was a .51 correlation "between the quality ratings for the compositions and the sentence combining frequency" (58-59). While this result identifies a relationship, it is not nearly as strong as the O'Hare study indicates.

Peter Elbow is another researcher who attacks sentence combining, saying that it is "so a-rhetorical--so distant from the essential process of writing" (233). Elbow feels that sentence combining, with its "prepackaged words and ready-made thoughts . . . reinforces the push-button, fast-food expectations in our culture" (223). If sentence combining exercises are to be taught, Elbow says they should supplement the writing

process and not be the focus of a writing course. In Elbow's opinion, open sentence combining, which provides "students with an array of acceptable or even good answers--as writing does" (234) (italics Elbow's) should be taught instead of signaled combining, which reinforces the false assumption that there is a right or wrong way to write. He also feel that if teachers want clearer and livelier writing, they should leave syntax alone and encourage students to "put down words in the order they come to mind" (241). This practice would produce writing which represents the uninterrupted and natural flow of the human mind as it generates words. As far as Elbow is concerned, uncombined sentences like

I put my foot down.

The car surged forward.

sound better than

Because I put my foot down, the car surged forward.

Elbow feels that combined sentences emphasize what has happened instead of what is happening at present.

Like Holzman, Marzano, and Elbow, Marion Crowhurst feels sentence combining is not the "end all, be all" for writing teachers. She says that sentence combining may be useful but that teachers should not be "swept along on a tide of enthusiasm" (63). Analyzing research by Kerek, Daiker, and Morenberg, for example, Crowhurst finds that gains in syntactic maturity "diminish in the months following sentence combining instruction" (63). Another problem is that sentence-combining exercises

can "encourage the production of excessively long, awkward and error-laden T-units" (64).

To prove her point, Crowhurst discusses Make's and Williams' "Sentence Expanding: Not Can, or How, But When." Prior to sentence combining instruction, students classified as "incompetent" in composition writing had longer clauses and T-units than those classified as "competent." After sentence combining instruction, those students who remained competent increased T-unit length, whether or not they had sentence combining instruction, while those who went from incompetent to competent decreased T-unit length (65). A third pitfall is that teacher style and ability can influence the effectiveness of sentence combining in improving writing quality. Crowhurst quotes James Kinneavy as saying the following about sentence combining:

> . . . the use of sentence combining as a full-fledged composition program . . . may well depend on a rhetorical background which is not made explicitly in books like those of Strong . . . If so, in the hands of teachers who do not possess these rhetorical principles, the results of the technique may well be limited to syntactic growth. (qtd. in Crowhurst 67)

Summary

The purpose of this literature review was to identify the state of knowledge in sentence combining. After defining the term "sentence combining," this review provided historical

information, identified key strategies for teaching sentence combining, discussed a few experimental studies, and stated the benefits and potential pitfalls of this practice. While interest in sentence combining can be traced to ancient times, Noam Chomsky's experiments in transformational grammar served as the impetus for research in contemporary times. Since ancient times, scholars have relied upon an allied technique for expanding sentence length: sentence imitation. The literature also indicates that some scholars prefer cumulative sentence exercises based on the principles devised by Francis Christensen. A few researchers question the use of the T-unit and forced-choice ratings in various sentence-combining studies, but most researchers praise sentence combining as an effective means of improving written compositions.

Writing teachers and researchers will continue to ponder the question "What is the best way of teaching writing?" To date, red comments in the margins of compositions and traditional grammar exercises fail to improve the quality of writing. Furthermore, college and university English departments seem to attract more scholars interested in literature than in composition research. But luckily, our society will continue to value writing as one of the most humane skills ever developed by man and to pursue better methods of teaching this time-honored skill.

For improvement in student writing, teachers and researchers must reevaluate their strategies and attitudes about teaching writing. Currently, theorists regard writing not as a product

but as a continuous process of arranging and rearranging words and syntactic structures until a writer finds the ones which best communicate the desired idea or message. As we approach the twenty-first century, teachers will need to identify methods for teaching writing which provide students with choice and flexibility. Sentence combining, with its emphasis on sentence variety and syntactic maturity, seems to hold great promise for the future.

Works Cited

Anderson, Paul V. "Out of the Schoolroom: Sentence Combining in Training Programs for Business, Industry, and Government." Daiker, Sentence Combining 184-91.

Beaugrande, Robert de. "Sentence Combining and Discourse Processing: In Search of a General Theory." Daiker, Rhetorical 61-75.

Butturff, Douglas R. "Sentence Combining, Style, and the Psychology of Composition." Daiker, Sentence Combining 39-42.

Broadhead, Glenn J. and James A. Berlin. "Twelve Steps to Using Generative Sentences and Sentence Combining in the Composition Classroom." College Composition and Communication 32 (1981): 295-307.

Christensen, Francis. "A Generative Rhetoric of the Sentence." Notes Toward a New Rhetoric. Francis Christensen. New York: Harper, 1967. 28-36.

Cooper, Charles R. "An Outline for Writing Sentence-Combining Problems." English Journal 62 (January 1973): 96+.

Corbett, Edward P. J. Classical Rhetoric for the Modern Student. New York: Oxford UP, 1971.

Crowhurst, Marion. "Sentence Combining: Maintaining Realistic Expectations." College Composition and Communication 34

---. "Syntactic Complexity and Teachers' Quality Ratings of Narrations and Arguments." Research in the Teaching of English 14 (1980): 223-31.

Daiker, Donald A., Andrew Kerek, and Max Morenberg. "Using 'Open' Sentence-Combining Exercises in the College Composition Classroom." Daiker, Sentence Combining 160-9.

Daiker, Donald A., Andrew Kerek, and Max Morenberg, eds. Sentence Combining: A Rhetorical Perspective Carbondale, Ill.: Southern Illinois UP, 1985.

---. Sentence Combining and the Teaching of Writing. Akron, Oh.: U of Akron, 1979.

Elbow, Peter. "The Challenge for Sentence Combining." Daiker, Rhetorical 232-45.

Faigley, Lester. "Problems in Analyzing Maturity in College and Adult Writing." Daiker, Sentence Combining 94-100.

Gebhardt, Richard. "Sentence Combining in the Teaching of the Writing Process." Daiker, Rhetorical 202-12.

Gorrell, Donna. "Controlled Composition for Basic Writers." College Composition and Communication 32 (October 1981): 308-16.

Hake, Rosemary and Joseph M. Williams. "Sentence Expanding: Not Can, or How, But When." Daiker, Sentence Combining 134-46.

Harris, Jeannette and Lil Brannon. "Sentence Analysis and Combining as a Means of Improving the Expository Style of Advanced College Students." Daiker, Sentence Combining 170-77.

Haswell, Richard H. "Within-Group Distribution of Syntactic Gain Through Practice in Sentence-Combining." Research in the Teaching of English 15 (February 1981): 87-96.

Heinold, Henry Robert. "Sentences: The Focal Points of English Teaching." Daiker, Sentence Combining 178-83.

Holzman, Michael. "Scientism and Sentence-Combining." College Composition and Communication 34 (February 1983): 73-79.

Hunt, Kellogg W. "Anybody Can Teach English." Daiker, Sentence Combining 149-56.

McQuade, Donald A. The Territory of Language: Linguistics, Stylistics, and the Teaching of Composition. Donald A. McQuade. Carbondale, Ill.: Southern Illinois UP, 1986.

Kerek, Andrew, Donald A. Daiker, and Max Morenberg. "The Effects of Intensive Sentence Combining on the Writing Ability of College Freshmen." McQuade, Territory 142-49.

Kinneavy, James L. "Sentence Combining in a Comprehensive Language Framework." Daiker, Sentence Combining 60-76.

Larsen, Richard B. "Sentence Patterning." College Composition and Communication 37 (February 1986): 103-6.

Lawlor, Joseph. "Sentence Combining: A Sequence for Instruction." Elementary School Journal 84 (1983): 53-61.

Maimon, Elaine P. and Barbara F. Nodine. "Measuring Syntactic Growth: Errors and Expectations in Sentence-Combining Practice with College Freshmen." Research in the Teaching of English 12 (1978): 233-44.

---. "Words Enough and Time: Syntax and Error One Year After." Daiker, Sentence Combining 101-8.

Marzano, Robert J. "Sentence Combining Myth." English Journal 65 (February 1976): 57-59.

McQuade, Donald A. Territory of Language: Linguistics, Stylistics, & the Teaching of Composition. U of Illinois P, 1986.

Mellon, John C. "Issues in the Theory and Practice of Sentence Combining: A Twenty-Year Perspective." Daiker, Sentence Combining 1-36.

Morenberg, Max, Donald Daiker, and Andrew Kerek. "Sentence Combining at the College Level: An Experimental Study." Research in the Teaching of English 12 (1978): 245-56.

"NCTE Landmarks During the Past Twenty Years," English Journal 68 (September 1979): 95-98.

Neuleib, Janice and Ron Fortune. "The Use of Sentence Combining in an Articulated Writing Curriculum: A Report on Illinois State University's NEH Project in Progress."

Daiker, Rhetorical 127-137.

Ney, James W. "A Short History of Sentence Combining: Its Limitations and Use." English Education 11 (February 1980: 169-77.

Nugent, Harold E. "The Role of Old and New Information in Sentence Combining." Daiker, Sentence Combining 201-8.

Nutter, Norma and Joan Safran. "Improving Writing with Sentence Combining Exercises." Academic Therapy 19 (March 1984): 449-55.

O'Hare, Frank. Sentence Combining: Improving Student Writing Without Formal Grammar Instruction. NCTE Research Report No. 15. Urbana: NCTE, 1971.

Packard, Dennis J. "A Generative Rhetoric." Rhetoric Society

Quarterly 16 (1986): 59-65.

Palacas, Arthur L. "Towards Teaching the Logic of Sentence Connection." Daiker, Sentence Combining 192-200.

Pedersen, Elray L. "Prospects for Sentence Combining." Daiker, Sentence Combining 56-59.

Phelps, Terry D. "A Life Sentence for Student Writing: The Cumulative Sentence." Journal of Teaching Writing 6 (Fall/Winter 1987): 319-24.

Rosner, Mary and Terri Paul. "Using Sentence Combining in Technical Writing Classes." Technical Writing Teacher 10 (Fall 1982): 35-40.

Sanford, Adrian B. "Four Basic Ways of Working with Sentences." English Journal 71 (November 1982): 68-70.

Savage, John F. "Sentence Combining: A Promising Practice." Chicago: Science Research Associates, 1980.

Stewart, Murray F. "Freshman Sentence Combining: A Canadian Project." Research in the Teaching of English 12 (1978): 257-68.

Strong, William. "An I-Search Perspective on Language/ Composition Research." English Journal 75 (1986): 27-33.

---. "Close-Up: Sentence Combining--Back to the Basics." English Journal 65 (February 1976): 56+.

Sullivan, Maureen. "Parallel Sentence-Combining Studies in Grades Nine and Eleven." Daiker, Sentence Combining 79-93.

Swan, M. Beverly. "Sentence Combining in College Composition: Interim Measures and Patterns." Research in the Teaching

of English 13 (October 1979): 217-24.

"Teaching Sentence Variety." English Journal 78 (1989) 74-76.

Witte, Stephen P., John A. Daly, and Roger D. Cherry. "Syntactic Complexity and Writing Quality." McQuade, Territory 150-64.

Yearwood, Stephanie. "Sentence Combining and Composing in the Classroom." Daiker, Sentence Combining 157-59